

CLAIMS

- 1 A compressor for a gas turbine engine; the compressor comprising a casing, a bearing means, a bearing support means, a mixed flow stage including a first rotor and at least one further mixed or centrifugal flow stage including a second rotor axially spaced apart from the said first rotor; all of the said rotors being carried on a common shaft rotatably mounted by the bearing means with respect to the bearing support means, the said bearing means being positioned between said first and second rotors for rotatably mounting the said rotors with respect to the said casing.
- 2 A compressor as claimed in Claim 1 wherein the said bearing means is positioned closely adjacent the said first rotor.
- 3 A compressor as claimed in Claim 1 wherein the said bearing support means extends radially with respect to the said shaft between the said bearing means and the said casing.
- 4 A compressor as claimed in Claim 3 wherein the said bearing support means comprises a frusta-conical portion extending from the said bearing means towards the said casing.
- 5 A compressor as claimed in Claim 1 further comprising at least one diffuser section between the said rotors and wherein the said bearing support means is connected to the said casing through the said diffuser section.
- 6 A compressor as claimed in Claim 5 wherein the said diffuser section has an inlet section and an outlet section with a radially inward flow section there between.
- 7 A compressor as claimed in Claim 1 wherein the bearing means comprises a

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- 8 A compressor as claimed in Claim 7 wherein the bearing means additionally comprises a thrust bearing.
- 9 A compressor as claimed in Claim 1 wherein the said compressor is a two stage mixed flow compressor having two mixed flow stages.
- 10 A compressor as claimed in Claim 1 wherein the said compressor stages have substantially the same pressure ratio.
- 11 A compressor as claimed in Claim 10 wherein the pressure ratio of each stage is greater than 4:1.
- 12 A gas turbine engine comprising a compressor according to Claim 1.
- 13 A gas turbine engine as claimed in Claim 12 wherein the said origin is a single spool engine.
- 14 A gas turbine engine as claimed in Claim 13 wherein the said engine comprises a turbo-fan or a turbo-jet engine.
- 15 A gas turbine engine as claimed in Claim 12 wherein the said engine is for an aircraft.
- 16 A gas turbine engine as claimed in Claim 13 wherein the said engine is for an aircraft.
- 17 A gas turbine engine as claimed in Claim 14 wherein the said engine is for an aircraft.